

REMARKS

The Examiner rejected Claims 1-28 under 35 U.S.C. § 102(b) as being anticipated by Patent Number 6,474,269 (So). Such rejections are noted.

Claim 1 has been amended. Applicant respectfully submits that Claims 1-28 are allowable.

Rejections Under 35 U.S.C. § 102(b)

Addressing the Examiner's rejection of Claims 1-28 under 35 U.S.C. § 102(b), Applicant respectfully suggests that So does not anticipate the claims of the present invention. Section 2131 of the Manual of Patent Examining Procedure describes the basis for anticipation under 35 U.S.C. § 102(b). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the . . . claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990).

Requirements for Rejecting Claims

The MPEP provides guidance to examiners in rejecting claims. In particular, the MPEP states that omnibus rejections should be avoided. MPEP § 707(d), at 700-113, 8th ed., rev. 1. Further, the MPEP states: "A plurality of claims should never be grouped together in a common rejection, unless that rejection is equally applicable to all claims in the group." *Id.* This is in keeping with the goal of examination, which is "to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity." MPEP § 706, at 700-17.

Contrary to the above requirements, the Examiner has rejected Claims 1, 6, 8, 11, 14, and 17 with a single statement of rejection, rejected claims 4, 15, 16, 18, 19, 23, and 28 with a single statement of rejection, rejected Claims 20 and 21, 25 with a single statement of rejection without addressing the unique limitations of each

individual claim. Applicants remind the Examiner that in order to support a rejection, each and every limitation of each claim must be found, either expressly or inherently, in the prior art. See MPEP 2131 and 2143. Applicants respectfully submit that the Examiner has not addressed each claim and each element and limitation of each claim as required by the MPEP. Accordingly, it is respectfully requested that the Examiner withdraw the rejections or, in the alternative, address each claim and each element as required. In the latter case, because such restatement of the rejection is necessary to complete the statement of the grounds for rejection (see MPEP 706.07), it is respectfully submitted that it would be inappropriate to make the next Examiner's action final, unless, of course, the next action is a Notice of Allowance.

Notwithstanding the above concerns and in an attempt to anticipate the Examiner's complete statement of the grounds for rejection, Applicants herein address the rejected claims and identify at least one element and/or limitation not found in the prior art, as appropriate.

With respect to Claims 1, 6, 8, 11, 14, and 17, the Examiner states:

2. Regarding claims 1, 6, 8, 11, 14, 17, So discloses a transmitting unit **10**, a receiver **50**, a processor **90**, a speaker **67**, a switch array **13, 14, 15, 16**, a transformer **T1**, at least one electrode **68, 69** located proximal to the animal, whereby the animal is stimulated by the electrode when the electrode is energized by the transformer **T1**.

Paper Number 0803, Application Serial No. 10/750,289, at 2.

Claim 1

Claim 1 has been amended to add a limitation of "a receiver unit" to clarify that the other elements already identified in the claim, including the processor and switch array, are included in a receiver unit, which is separate from the transmitting unit. The claim limitations describing the interrelationship between those elements already establishes that the receiver is connected to the processor and the processor is connected to the switch array; however, Applicants clarified the claim to alleviate any confusion by the Examiner.

Although the Examiner has not identified any antecedent basis problems, Applicants have amended Claim 1 to clarify the antecedent basis for the switch array

by adding the word "array" to "said switch" and the number of pulse streams by adding the word "said" to "number of said plurality of pulse streams."

The Examiner rejected Claim 1 as anticipated by So by asserting that the claimed switch array is equivalent to the function switches **13, 14, 15, 16** of So. Figure 3 of So illustrates the transmitter circuit, which includes four function switches **13, 14, 15, 16** that provide input to the transmitting processor **18**. See So, Fig. 3, Col. 5, lines 19-32 ("the transmitter **10** comprises an electric shock adjusting means **12** and a first through fourth function switches **13, 14, 15 and 16**). The limitation of Claim 1 states "a switch array controlled by said processor in response to said shock code." According to the claim, the transmitting unit sends the shock code, which is received by the receiver and decoded by the processor, which applies a plurality of pulse streams to the switch array.

Claim 1 also requires that the "transformer [be] electrically connected to said switch array." So discloses the function switches in the transmitter **10** and the transformer **T1** in the receiver **50**. See So, Figs. 3 and 4. Accordingly, So does not anticipate Claim 1 because So does not disclose the elements of the claim arranged as required by the claim.

Applicants respectfully request the Examiner withdraw the section 102 rejection of Claim 1 because at least one element of the claim, namely the switch array and its connection to the processor and transformer, is not disclosed by the reference in the arrangement as described in the claim. Having no further rejection of or objection to Claim 1, it is respectfully submitted that Claim 1 is in condition for allowance. Dependent Claims 2-5 are also in condition for allowance as depending from an allowable base claim.

Claim 6

Independent Claim 6 includes limitations similar to those in Claim 1, that is, the switch array is controlled by the processor, which applies a plurality of pulse streams to the switch array, which is connected to the transformer.

Applicants respectfully request the Examiner withdraw the section 102 rejection of Claim 6 because at least one element of the claim, namely the switch array and its

connection to the processor and transformer, is not disclosed by the reference in the arrangement as described in the claim. Having no further rejection of or objection to Claim 6, it is respectfully submitted that Claim 6 is in condition for allowance.

Dependent Claim 7 is also in condition for allowance as depending from an allowable base claim.

Claims 8 and 11

Independent Claims 8 and 11 include means-plus-function limitations, as defined by 35 U.S.C. § 112, sixth paragraph. A means-plus-function limitation must be interpreted to cover the corresponding structure, materials, or acts in the specification and "equivalents thereof." 35 U.S.C. § 112, sixth paragraph; *see also* MPEP § 2181. The Examiner "must apply 35 U.S.C. 112, sixth paragraph in appropriate cases, and give claims their broadest reasonable interpretation, **in light of and consistent with the written description of the invention in the application.**" MPEP 2181, sub-section I, pg. 2100-220, 8th ed., rev. 2 (emphasis added).

In accordance with MPEP § 2181, it no longer is acceptable practice for the Examiner to interpret means-plus-function limitations "as reading on any prior art means or step which performed the function specified in the claim without regard for whether the prior art means or step was equivalent to the corresponding structure, material or acts described in the specification." MPEP § 2181, pg. 2100-220 (emphasis added). The current practice is that "the application of a prior art reference to a means or step plus function limitation requires that the prior art element perform the identical function specified in the claim." MPEP § 2182, pg. 2100-227. "However, if a prior art reference teaches identity of function to that specified in a claim, then under *Donaldson* an examiner carries the initial burden of proof for showing that the prior art structure or step is the same as or equivalent to the structure, material, or acts described in the specification which has been identified as corresponding to the claimed means or step plus function." *Id.* (emphasis added). The MPEP further states "The 'means or step plus function' limitation should be interpreted in a manner consistent with the specification disclosure." *Id.*

For making a *prima facie* case of equivalence for a means-plus-function limitation, the MPEP states

If the examiner finds that a prior art element

- (A) performs the function specified in the claim,
- (B) is not excluded by any explicit definition provided in the specification for an equivalent, and
- (C) is an equivalent of the means-(or step-) plus-function limitation,

the examiner should provide an explanation and rationale in the Office action as to why the prior art element is an equivalent.

MPEP § 2183, pg. 2100-228. With respect to the third element above, the prior art element is an equivalent, the MPEP states that a factor supporting such a conclusion is "(D) the prior art element is a structural equivalent of the corresponding element disclosed in the specification." MPEP § 2183, pg. 2100-228. The MPEP further requires that "the prior art element performs the function specified in the claim in substantially the same manner as the function is performed by the corresponding element described in the specification." MPEP § 2183, pg. 2100-228 (emphasis added).

Accordingly, it is necessary to consider the specification in determining the scope of the rejected claims. Claim 8 includes the limitation of "a means for producing an electrical stimulation based on an output of said processor." Claim 11 includes the limitation of "a means for producing an electrical stimulation based on said coded signal." Applicants' specification states

The function of producing the electrical stimulation is performed, in one embodiment, by the processor **306** outputting at least one pulse stream **512, 612** to a switch array **308**, which produces a current through the pulse transformer **310** that is related to the requested stimulation level. The function of producing a beep is performed by the processor **306** and the speaker **314**.

Specification, para. 32. As described above with respect to Claim 1, So does not disclose a processor outputting to a switch array, which is connected to a transformer. Applicants respectfully submit that Claims 8 and 11 are not anticipated by So because So does not disclose any equivalent structures corresponding to those disclosed in Applicants' specification, and, therefore, So does not teach every element of the claimed invention. Accordingly, Applicants respectfully request that the Examiner

withdraw his rejection of Claims 8 and 11. Having no further rejection or objection to Claims 8 and 11, it is respectfully submitted that Claims 8 and 11 are in condition for allowance. Dependent Claims 9, 10, 12, and 13 are also in condition for allowance as depending from an allowable base claim.

Claim 14

Claim 14 is a method claim with several process steps, including the step of "outputting said least one pulse stream to produce a signal having a current corresponding to said stimulation level code." In the rejection, the Examiner does not specifically identify a reference disclosing these steps. As stated above, the Examiner has made an omnibus rejection. In particular, the Examiner has not provided reasons for finding Claim 14 anticipated by So. The Examiner has not addressed each and every step of the method claim and identified how So supports the rejection.

However, Applicants point out that at least one step, "outputting said least one pulse stream to produce a signal having a current corresponding to said stimulation level code," is not disclosed by So. The only reference to "current" is in the portion of So that discusses

The RF module **80** amplifies the AC component RF signal from the coupling capacitor **C2** to a predetermined level, filters and detects the amplified signal, and outputs the detected signal to the microprocessor module **90**. Then, the microprocessor module **90** outputs the electric shock generating control signal, received by the first function switch **13**, to the buffer **62**. The buffer **62** amplifies the electric shock generating control signal to a predetermined level and outputs the amplified signal to the base of a first transistor **Q1**. Therefore, the first and second transistors **Q1** and **Q2** of the Darlington amplifier **64** are switched on, and the Darlington amplifier **64** amplifies the electric shock generating control signal to a predetermined level. At this time, a current flows in a primary coil **L1** of the transformer **T1** and the voltage proportional to the current is generated at the secondary coil **L2**.

So, Col. 9, lines 17-35 (emphasis added). The "electric shock generating control signal" is a digital signal output from the receiver microprocessor **94** that is converted to an analog signal by a digital-to-analog converter (D/A converter) **97** (also referred in So as **96**) and passed to the buffer **62**. So, Fig. 6, Col. 8, lines 10-15. So does not disclose the electric shock generating control signal as being a pulse stream. Rather, So discloses the electric shock generating control signal as being a digital signal of a specific value, which is then converted to an analog signal of a specific amplitude. *Id.*

Applicants respectfully submit that Claim 14 is not anticipated by So because So does not disclose at least one step of Claim 14, in particular, that a pulse stream is outputted to produce a signal having a current corresponding to said stimulation level code. Therefore, So does not teach every element of the claimed invention. Accordingly, Applicants respectfully request that the Examiner withdraw his rejection of Claim 14. Having no further rejection of or objection to Claim 14, it is respectfully submitted that Claim 14 is in condition for allowance. Dependent Claims 15 and 16 are also in condition for allowance as depending from an allowable base claim.

Claim 17

Claim 17 is a method claim with several process steps, including the step of "producing said electrical stimulation if requested, said electrical stimulation based on a current level corresponding to said stimulation level code." In the rejection, the Examiner does not specifically identify a reference disclosing these steps. As stated above, the Examiner has made an omnibus rejection. In particular, the Examiner has not provided reasons for finding Claim 17 anticipated by So. The Examiner has not addressed each and every step of the method claim and identified how So supports the rejection.

However, Applicants point out that at least one step, "producing said electrical stimulation if requested, said electrical stimulation based on a current level corresponding to said stimulation level code," is not disclosed by So. As stated above with respect to Claim 14, the device disclosed in So does not control a current level to produce the stimulation.

Applicants respectfully submit that Claim 17 is not anticipated by So because So does not disclose at least one step of Claim 17, in particular, that an electrical stimulation is produced based on a current level corresponding to said stimulation level code. Therefore, So does not teach every element of the claimed invention. Accordingly, Applicants respectfully request that the Examiner withdraw his rejection of Claim 17. Having no further rejection of or objection to Claim 17, it is respectfully submitted that Claim 17 is in condition for allowance. Dependent Claims 18-20 are also in condition for allowance as depending from an allowable base claim.

Claim 2

With respect to Claim 2, the Examiner states:

4. Regarding claim 2, So discloses that the pulse streams have a fixed pulse width, frequency, and amplitude (col 6, lines 54-61).

Paper Number 0803, Application Serial No. 10/750,289, at 2.

The limitation of Claim 2 states that "each of said plurality of pulse streams has a fixed pulse width, a fixed pulse frequency, and a fixed amplitude." The referenced section of So states:

Referring to FIG. 4, the electric shock driving means **60** includes a. buffer **62**, a Darlington amplifier **64**, a stabilizing resistor **R1** and feedback resistors **R4**, **R5**. The buffer **62** amplifies the electric shock generating control signal from the microprocessor module **90**. The Darlington amplifier **64** is switched on by the output of the buffer **62** and amplifies the amplified electric shock generating control signal to a predetermined level.

So, Col. 6, lines 54-61. Applicants respectfully submit that the referenced portion of So is not applicable to the limitation of Claim 1. However, the Examiner is directed to So which states: "The electric shock adjusting means **12** sets the intensity level of the electric shock which is applied to the animal by linearly varying the intensity level continuously." So, Col. 5, lines 21-24. So discloses a device in which the amplitude, or intensity level, is not a fixed amplitude, but continuously varies linearly.

Accordingly, Applicants respectfully submit that So does not disclose the limitation of Claim 2, and, therefore, So does not anticipate Claim 2. Notwithstanding that the claim is allowable as depending upon an allowable base claim, Applicants respectfully request that the Examiner withdraw his rejection to Claim 2.

Claim 3

With respect to Claim 3, the Examiner states:

5. Regarding claim 3, So discloses that [sic] the processor **90** connects to a plurality of switches **13**, **14**, **15**, **16** forming a switch array, each of said switches [sic] forcing a specified current through the transformer **T1**.

Paper Number 0803, Application Serial No. 10/750,289, at 2.

The Examiner has not identified the portion of So that supports this assertion. Figure 3 clearly shows the switches **13**, **14**, **15**, **16** connected to a transmitting processor **18**, and the transmitter of Figure 3 is not connected to transformer **T1**, which is in the receiver So, Figs. 3 and 4. In the only paragraph in which the term "current" is used, So states

Then, the microprocessor module **90** outputs the electric shock generating control signal, received by the first function switch **13**, to the buffer **62**. The buffer **62** amplifies the electric shock generating control signal to a predetermined level and outputs the amplified signal to the base of a first transistor **Q1**. Therefore, the first and second transistors **Q1** and **Q2** of the Darlington amplifier **64** are switched on, and the Darlington amplifier **64** amplifies the electric shock generating control signal to a predetermined level. At this time, a current flows in a primary coil **L1** of the transformer **T1** and the voltage proportional to the current is generated at the secondary coil **L2**.

So, Col. 9, lines 21-35 (emphasis added). So states that the "function switch **13** adapted to control the electric shock with a level set by the electric shock adjusting means **12** to be outputted for a predetermined period of time." So, Col. 5, lines 24-27. Su further states that the "transmitting microprocessor **18** receives operation signals set by the first through fourth function switches **13** through **16**, operates and processes the operation signals, selects one among data waveforms of an electric shock generating control signal, . . ." So, Col. 5, lines 38-42. Accordingly, So discloses a single switch **13** that, upon its actuation by an operator, initiates a signal that is transmitted to a receiver where it is subsequently amplified and applied as an electric shock. The processor **90** is not connected to switches **13**, **14**, **15**, **16**, and, further, the second and third switches **14**, **15** are not associated with providing an electric shock. So states: "The second function switch **14** is adapted to control an output of vibration, and the third function switch **15** is adapted to control an output of a beep sound for calling the animal." So, Col. 5, lines 26-30.

Accordingly, Applicants respectfully submit that So does not disclose the limitation of Claim 3, and, therefore, So does not anticipate Claim 3. Notwithstanding that the claim is allowable as depending upon an allowable base claim, Applicants respectfully request that the Examiner withdraw his rejection to Claim 3.

Claims 4, 15, 16, 18, 19, 23, and 28

With respect to Claims 4, 15, 16, 18, 19, 23, and 28, the Examiner states:

6. Regarding claims 4, 15, 16, 18, 19, 23, and 28, So discloses the processor **90** monitors the receiver **50** for coded signal, verifies identification code, determines whether a beep or shock should be generated, and generates a plurality of pulse streams (please refer to flow chart of Figure 4, and col 6, lines 20-24).

Paper Number 0803, Application Serial No. 10/750,289, at 2.

The Examiner asserts that the device of So generates "a plurality of pulse streams." A thorough review of So does not reveal that the terms "pulse," "stream," or "pulse stream" appear in the patent. In the description of the device in So, an "electric shock generating control signal" is discussed, but it is not described as a pulse stream, nor its equivalent. Accordingly, Applicants respectfully submit that Claims 4, 15, 16, 18, 19, 23, and 28 are not anticipated by the reason asserted by the Examiner because the cited reference does not disclose pulse streams. Notwithstanding that the claims are allowable as depending upon an allowable base claim, Applicants respectfully request that the Examiner withdraw his rejection to Claims 4, 15, 16, 18, 19, 23, and 28.

Claims 20, 21, and 25

With respect to Claims 20, 21, and 25, the Examiner states:

10. Regarding claims 20 and 21, 25, So discloses determining current level corresponding to said stimulation level code, generating at least on[e] input pulse stream, applying at least one input pulse stream, applying at least one input pulse stream to a switch array, and producing a stimulation pulse stream from at least one input pulse stream (refer to col 8, line 58-col 9, line 5).

Paper Number 0803, Application Serial No. 10/750,289, at 3.

The section referenced by the Examiner states:

Further, the modulating means **20** combines the electric shock generating control signal with the signal oscillated in the oscillation means **19** for a predetermined period of time (typically, n seconds), and then modulates the combined signal to a carrier signal. Then, the carrier signal from the modulating means **20** is amplified in the RF amplifying means **21** to the RF signal. Then, the low pass filter **22** cuts off the high frequency component (or

harmonic wave components) of the RF signal and transmits the lower frequency component (or fundamental wave) of the RF signal to the receiving antenna **51** installed within the case **52** of the receiver **50** through the transmitting antenna **17**. Thereby, the trainer's command can be transmitted along with the secret number to the receiver **50** through the antenna **17**.

So, Col. 6, lines 54-61. The Examiner has not explained how the cited reference pertains to the specific limitations of the claims, nor can Applicants determine the applicability of the cited section to the claims.

Method Claim 20 includes the step of "generating at least one input pulse stream having a fixed pulse width, a fixed frequency, and a fixed pulse voltage." Method Claim 21 includes the steps of "c1) determining a number of pulse streams to be applied to a switch array to produce a current corresponding to said stimulation level code," and "c2) generating said number of pulse streams having a fixed pulse width, a fixed frequency, and a fixed pulse voltage." Method Claim 25 includes the step of "b2) generating said current from at least one input pulse stream having a fixed pulse width, a fixed frequency, and a fixed pulse voltage." Each of these steps have in common the limitation of a pulse stream. However, So does not disclose a pulse stream, nor does So describe a device that requires pulse streams. Accordingly, Applicants respectfully submit that So does not disclose at least one step of Claims 20, 21, and 25, and, therefore, So does not anticipate Claims 20, 21, and 25. Applicants respectfully request that the Examiner withdraw his rejection to Claims 20, 21, and 25. Notwithstanding that Claim 20 is allowable as depending upon an allowable base claim, Applicants respectfully request that the Examiner withdraw his rejection to Claim 20.

Conclusion

In view of the amendment of Claim 1, it is believed that the above-identified patent application is in a condition for the issuance of a Notice of Allowance. Such action by the Examiner is respectfully requested. If, however, the Examiner is of the opinion that any of the drawings or other portions of the application are still not allowable, it will be appreciated if the Examiner will telephone the undersigned to expedite the prosecution of the application.

Please charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 16-1910 (29105.00).

Respectfully submitted,



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